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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,520	04/19/2001	Geoffrey T. Haigh	A0312/7393 SJH	9453

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EXAMINER

DEBERADINIS, ROBERT L

ART UNIT PAPER NUMBER

2836

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/838,520

Applicant(s)
GEOFFREY T. HAIGH et al.

Examiner
Robert L. DeBeradinis

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2836



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 24, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-23, 25, and 26 is/are rejected.
- 7) ☒ Claim(s) 24 and 27 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Feb 24, 2003 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

1. In view of the appeal brief filed on 2/24/03, PROSECUTION IS HEREBY REOPENED.

New grounds for rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Response to Amendment

After final amendment filed 2/24/03, entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14-23, 25, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over IWASAKI 4,922,883 in view of DOUGLASS 5,786,979.

Regarding claims 14, 15, 25, 26.

IWASAKI discloses:

- the first and second passive components being coils (figure 7, transformer 131);
- an input for receiving an input signal (figure 7, Sc); and
- a driver circuit coupled between the input (figure 7, Sc) and one of said passive components (131, primary coil).

IWASAKI does not disclose:

- a first substrate;
- a first passive component formed on the first substrate;
- an isolation layer formed over the first passive component;
- a second passive component formed over the isolation layer;

DOUGLASS discloses high density inter-chip connecting by electromagnetic coupling (column 4, lines 21-25) comprising:

- a first substrate (abstract, line 7);
- a first passive component formed on the first substrate (abstract, capacitor plate);
- an isolation layer formed over the first passive component (column 4, line 55);

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a second passive component formed over the isolation layer (column 4, line 55).

It would have been obvious to one having ordinary skill in the art at the time of this invention to provide a signal isolated comprising:

a first substrate;

a first passive component formed on the first substrate;

an isolation layer formed over the first passive component;

a second passive component formed over the isolation layer; and

a driver circuit coupled between the input and one of said passive components to provide inter-chip connections between circuits mounted on a substrate (column 4, lines 21-25).

Regarding claims 16, 17.

IWASAKI in view of DOUGLAS disclose the isolator of claim 14 or claim 15.

DOUGLAS discloses wherein the first substrate is a semiconductor substrate (column 1, lines 42-45, column 2, lines 47-67).

Regarding claim 18.

IWASAKI in view of DOUGLAS disclose the isolator of claim 16.

DOUGLAS discloses any chip may communicate with any other chip by propagating a transmitted signal from chip to chip (abstract).

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Regarding claims 19, 20.

IWASAKI in view of DOUGLAS disclose the isolator of claim 16.

DOUGLAS discloses wherein the first passive component is formed on top of the first substrate (column 3, lines 17-50).

Regarding claims 21, 22, 23.

IWASAKI in view of DOUGLAS disclose the isolator of claim 16.

IWASAKI in view of DOUGLAS do not disclose the isolator further comprising a third passive component on the substrate, a second isolation layer over the third passive component, and a fourth passive component formed over the second isolation layer, wherein the driver circuit provides signals to the first and third passive components..

DOUGLAS discloses the first chip further includes a first means for coupling disposed over the substrate face and coupling underlying circuit (column 3, lines 16-32).

It would have been obvious to one having ordinary skill in the art at the time of this invention to further include a third passive component on the substrate, a second isolation layer over the third passive component, and a fourth passive component formed over the second isolation layer, wherein the driver circuit provides signals to the first and third passive components to provide electromagnetic coupling between chips in high density multi chip substrate.

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Allowable Subject Matter

4. Claims 24, 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose or suggest to disclose Faraday shield referenced to the same ground as the second passive components.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (703) 306-5857. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reached on (703) 308-3119. The fax phone number for this Group is (703) 308-7722.

RLD

MAY 6, 2003

